10/049,633

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=>
=> d his

     (FILE 'HOME' ENTERED AT 13:29:13 ON 02 SEP 2004)

     FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 13:29:34 ON
     02 SEP 2004
L1           542 S IMMOBILI? (9A) BIOPOLYMER?
L2            86 S L1 AND (SURFACE? OR SUBSTRATE? OR SUPPORT?) (10A) (AMINO? OR
L3            83 DUP REM L2 (3 DUPLICATES REMOVED)
L4             4 S L3 AND (METAL? OR OXID?) (4A) SOLID?

=>  s l1 and (surface? or substrate? or support?) (10a) (aldehyde? or epoxide or
halo?)
   4 FILES SEARCHED...
L5           20 L1 AND (SURFACE? OR SUBSTRATE? OR SUPPORT?) (10A) (ALDEHYDE? OR
                EPOXIDE OR HALO?)

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6            20 DUP REM L5 (0 DUPLICATES REMOVED)

=> s l6 and (metal? or oxid?) (5a) solid?
   4 FILES SEARCHED...
L7            3 L6 AND (METAL? OR OXID?) (5A) SOLID?

=> d l7 bib abs 1-3

L7   ANSWER 1 OF 3  WPIDS  COPYRIGHT 2004 THOMSON DERWENT on STN
AN   2001-266833 [28]    WPIDS
DNN  N2001-190836        DNC C2001-080964
TI   Covalent immobilization of biopolymers, useful for
     studying e.g. gene expression, by coupling amino group on biopolymer to
     reactive group on substrate.
DC   B04 D16 S03
IN   ANSORGE, W; FAULSTICH, K
PA   (EMBL-N) EMBL EURO LAB MOLEKULARBIOLOGIE
CYC  95
PI   DE 10016073      A1 20010301 (200128)*       12
     WO 2001014585    A1 20010301 (200128)  GE
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TZ UG ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM
            DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
            LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE
            SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
     AU 2000074119    A  20010319 (200136)
     EP 1212466       A1 20020612 (200239)  GE
         R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
            RO SE SI
ADT  DE 10016073 A1 DE 2000-10016073 20000331; WO 2001014585 A1 WO 2000-EP8193
     20000822; AU 2000074119 A AU 2000-74119 20000822; EP 1212466 A1 EP
     2000-962356 20000822, WO 2000-EP8193 20000822
FDT  AU 2000074119 A Based on WO 2001014585; EP 1212466 A1 Based on WO
     2001014585
PRAI DE 1999-19940077     19990824
AN   2001-266833 [28]    WPIDS
AB   DE  10016073 A UPAB: 20010522
     NOVELTY - Covalent immobilization of biopolymers (I)
     on a solid phase having, on at least part of its surface, amino
     reactive groups (halo, aldehyde, epoxy,
     iso(thio)cyanate), by reacting the surface with (I) containing
     reactive amino groups. The solid phase is a metal
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and/or oxide phase.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) solid phase, with immobilized (I), of formula (III) Z-(CH2)n-Y-X-NS (III);

(b) device for studying a hybridization-based interaction between free and immobilized (I) comprising the new solid phase, at least one hybridization probe, hybridization buffer and hybridization chamber, optionally with a pumping and temperature control system;

(c) method for simultaneous amplification and labeling of cDNA by reverse transcription of RNA, without introduction of a label, then simultaneous amplification and labeling of cDNA using a labeled deoxynucleoside triphosphate and optionally purification of the labeled cDNA;

(d) method for immobilizing (I) on a solid phase having reactive amino groups over at least part of its surface by stable (non-)covalent interaction of (I) with these groups;

(e) solid phase with immobilized (I) of formula (V) ZO-Si(O-)2-(CH2)n-NH-(CH2)m-NH2.....NS (V) where the dotted line indicates covalent or non-covalent interaction; and

(f) method for separating the strands of double-stranded nucleic acid, according to sequence, in which one strand includes at least one 5'-amino-modified nucleotide.

Z = solid phase;
NS = nucleic acid;
X = bond or linker, linked to the terminal residue of NS;
Y = -N=CH-(CH2)m-CH=N-, -NH-CH2-(CH2)m-CH2-NR1-, -NR1-, -NH-CQ-NHR', -NHCQ-NR'-, -CH(OH)-CH2-NR1- or the group (i)
Q = O or S;
Q' = Cl or OH;
R1 = H or 1-6C alkyl;
R' = alkylene or arylene;
n = 0 or integer; and
m = 1-20.

USE - Solid phases derivatized with an array of (I) are used to study interactions between free and bound (I), particularly nucleic acids but also interactions involving proteins, lipids and carbohydrates. Particular applications are nucleic acid sequencing; studying expression/function of genes and metabolites; identifying new pharmaceuticals (and their activity and side effects); detecting genetically modified foods, and identification of mutations.

ADVANTAGE - This method of immobilizing (I) is effective and simple and, unlike the standard method of adsorption on polylysine, can accommodate nucleic acids of any length; has high binding capacity (some hundreds of femtomoles per square mm) and when hybridization involves a 5'-amino-modified probe, binding to immobilized (I) is easily reversed, allowing reuse of the solid phase.

Dwg.0/0

L7 ANSWER 2 OF 3 USPATFULL on STN
AN 2004:184455 USPATFULL
TI Method for producing an array for detecting constituents from a biological sample
IN Lehmann, Werner, Lipten, GERMANY, FEDERAL REPUBLIC OF
PI US 2004142338 A1 20040722
AI US 2004-469167 A1 20040315 (10)
WO 2002-EP2116 20020227
PRAI DE 2001-1105118 20010228
DT Utility
FS APPLICATION
LREP MILLEN, WHITE, ZELANO & BRANIGAN, P.C., 2200 CLARENDON BLVD., SUITE 1400, ARLINGTON, VA, 22201
CLMN Number of Claims: 12
ECL Exemplary Claim: 1

DRWN No Drawings
LN.CNT 1057
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention suggests a method of producing an array for the detection of components from a biological sample, wherein the detection molecules are immobilized on one or more supports, said support(s) is/are embedded and subjected to curing, the support is separated into sections, and the sections are applied on another support.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 3 OF 3 USPATFULL on STN
AN 78:4745 USPATFULL
TI Reactive matrices
IN Kennedy, John Frederick, Birmingham, England
Chaplin, Martin Frank, Birmingham, England
PA Abbott Laboratories, North Chicago, IL, United States (U.S. corporation)
PI US 4070246 19780124
AI US 1976-675110 19760409 (5)
DT Utility
FS Granted
EXNAM Primary Examiner: Jones, Raymond N.; Assistant Examiner: Fan, C. A.
LREP Fato, Gildo E., Niblack, Robert L.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 553
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising stable, water-insoluble coatings on substrates to which biologically active proteins can be covalently coupled so that the resultant product has the biological properties of the protein and the mechanical properties of the substrate, for example, magnetic properties of a metal support. The resultant product can be utilized in diagnostic immunoassays as an example, and when the metal substrate is magnetic, the product can be removed from liquid media by a magnetic field ensuring that any washing or incubation process can be finished promptly and efficiently.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l7 3 kwic

L7 ANSWER 3 OF 3 USPATFULL on STN
SUMM The **metal** should be one which is **solid** and does not react with water either in an unprotected, or if necessary a protected, state. The metal is preferably,. . .
SUMM . . . polymer may conveniently be prepared by emulsion, solution or suspension polymerization in a liquid medium (generally aqueous) containing the metallic **substrate**. Thus, for example, an **aldehyde** may be added slowly to an aqueous solution of an aminobenzoic acid containing a metallic substrate, and coated metal product. . .
SUMM It is known that **biopolymers** may be **immobilized** on suitably derivatized glass. In this invention, the intermediate polymer may be a glass in the form of a coating. . .
DETD

Example	Coupling Example	Bound Protein γ g/g **Solid**	Enzyme Units Per g **Solid**	Enzyme Units Per **Metal** Bar
I	I	1725	558	--

I	II	--	1100	--
I	III		320	--
V	I	--	100	--
VI	I	--	480	--
VII.	.	.		

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